Periscope.

AMERICAN JOURNAL OF INSANITY

(Vol. 59, 1903, No. 3.)

1. The Insane in Brazil. **Kidder.**
2. A Contribution to the Chemistry of Nerve Degeneration in General Paralysis and Other Mental Disorders. **Coriat.**
3. Dermatoses of the Insane. **Winfield.**
4. Report of a Case of Dementia Præcox with Autopsy. **Dunton.**
5. A Case of Abscess Diagnosed as Brain Tumor. **Gordinier.**
6. A Case of Brain Tumor in a Woman Seventy-eight Years of Age. **Madison.**
7. Acute Paresis with Report of a Case; the Clinical History and Pathological Findings. **Paton** and **Rusk.**
8. On the Motor Cortex. **Farrer.**
9. A Case of Metastatic Adrenal Tumors in the Left Mid-frontal and Ascending Frontal Convolutions. **Channing** and **Knowlton.**

1. *The Insane in Brazil.*—The government hospital at Rio de Janeiro is a modern, well-equipped institution with the latest appliances for the examination of patients, which is very complete, and the latest and best electrotherapeutic and hydrotherapeutic apparatus. The chronic insane are cared for in agricultural colonies. The hospital is comfortably furnished, except the dining rooms, where the furnishings are very scanty and poor. A training school for nurses is maintained. Mechanical restraint is not used, and the patients present no marks of violence. In some of the provinces the insane are cared for in religious charitable institutions which are of a low grade. The State of Sao Paulo has a good hospital with agricultural colonies attached. There are several private institutions at the Federal capital. Considerable attention is given to hydrotherapy. The death rate of the insane is large, being due in a measure to the tardiness in sending the patients to the hospital, many dying within the first twenty-four hours after admission.

2. *A Contribution to the Chemistry of Nerve Degeneration in General Paralysis and Other Mental Disorders.*—The chemistry of nerve degeneration is at present limited to katabolic processes in the lecithin, the main constituent of the myelin sheath, and to decomposition of the axis cylinder, of which little is known. The decomposition products of lecithin are found chiefly in the cerebrospinal fluid, which latter varies under different conditions, like age and certain diseases, such as general paresis, and its color is changed under certain pathological conditions and by certain remedies; while normally alkaline, it may become acid in reaction under long-continued activity of the nervous system and is due to the lactic acid of degeneration. The toxicity of the cerebrospinal fluid is increased in general paresis, owing to the cholin and other products of nerve katabolism and reaches its maximum after the epileptoid seizures and is believed to depend on cholin, which is the decomposition product of lecithin, and is the result, not the cause of the convulsive seizures. The knowledge of phosphoric acid metabolism is slight. In degenerative conditions, like general paresis, phosphorus has been found diminished in the nerve tissue and is a measure of the degeneration. A series of 34 cases suffering from different psychoses, in which the cerebrospinal fluid was examined and the technic fully given. These cases are further tabulated as to the chem-

ical analyses, but the results do not bear abstracting and would have to be quoted verbatim to be intelligible.

3. *Dermatoses of the Insane.*— No special relation of the various affections found are proven to have any connection with the mental disorder. Of the stigmata of degeneration hypertrichosis, on which great stress is often laid, was most prevalent in females, and a case is cited of melancholia, in which with the progress of the disease the hypertrichosis became marked, and as she improved mentally the hairs dropped off, leaving the skin as free as before the illness. Telangiectasis was found to be as prevalent in the sane as in the insane. The skin was found to be no more unctuous or odoriferous than in the sane. On the whole the insane are more subject to degenerative dermatoses than the sane, yet the cutaneous stigmata are found to be of little clinical value. A tabulated statement of the findings concludes the paper.

4. *Report of a Case of Dementia Praecox with Autopsy.*—This patient was under observation four years and died of tuberculosis with the katatonic form of dementia præcox. It is of a young man of 22, clerk. Mother died of tuberculosis. The onset was sudden, patient became confused, refused food with the other symptoms peculiar to this disease type. A summary of the microscopical findings in the brain are as follows: slight cell change distributed over the entire brain, but most pronounced in the first frontal convolution. Cells present central chromolysis, an occasional slight pale yellow degeneration, slight cell atrophy, atrophy, discoloration and swelling of the nucleus; folding of the nuclear membrane and an endonucleolus. Deeper layers most affected, motor cells show slight changes like the above. Slight increase of neuroglia nuclei. Phagocytosis well marked and considerable cell degeneration. No change in the medullated fibers and no marked vascular changes. No cell shrinkage, so frequent in tuberculosis. An exhaustive autopsy report is given and the paper illustrated by four plates showing the cell changes.

5. *A Case of Abscess Diagnosed as Brain Tumor.*—The case of a man of 52, married, farmer, with no hereditary history and perfectly well until two years ago before the final illness, when he had several attacks of indigestion. His final illness began with unilateral convulsion followed by unconsciousness, in which head and eyes first turned to the left, then whole body convulsed and loss of consciousness. The effects of the attack were evanescent. Another attack occurred in 26 days and similar in character, except not followed by unconsciousness; numbness preceded neither. This one was soon followed by another; the fourth occurred two weeks later without loss of consciousness. Movements of arm weakened and awkward after the last attack with gradual failure of memory, particularly for names and dates. No severe headache, but constant dull frontal pain. No facial symptoms except slight paralysis of central type, shown by obliteration of the left naso-labial fold and drooping of the angle of the mouth; left arm partly paralyzed and held semi-flexed. No reflex accessory derangements. Cerebration retarded, no aphasia. Patient operated and nothing indicative found and the wound closed. Patient died about three weeks later, after being delirious, followed by unconsciousness. An examination of the brain revealed a tumor-like mass involving the middle third of the right central convolution and extending forward and upward, implicating the bases of the superior and middle frontal gyri, measuring 4 cm. antero-posteriorly and 3½ cm. vertically, which was found to be an abscess, whose cavity extended forward into the frontal lobe, involving the centrum ovale beneath the bases of the superior and middle convolutions. The pus was thick and contained broken down brain tissue with micro-organisms of the colon group. The following conclusions may be drawn from this case: (1) The necessity of an exploratory puncture or incision in every apparently inoperable case when symptoms are strictly localized; (2) that typical Jacksonian epilepsy may be excited by a lesion in the white matter beneath the

cortex as well as upon it; (3) the ataxia of the arm may be explained either by involvement of the sensory fibers in the white matter of the inferior parietal lobule or by destruction of a part of the fibers of the frontocerebellar tract; (4) no disturbances of sensation and the Jacksonian attacks not preceded by numbness; (5) the paresis of the left arm following local convulsive seizures due to compression and destruction of the motor fibers of the arm area; (6) that no symptoms of compression existed; (7) this case shows the value of local convulsive movements in diagnosing local brain disease, also confirms the position of the centers for conjugate movements of the head and eyes, as for those of the arm. Also proves that local convulsive seizures may be excited by a lesion in the white matter beneath the cortex as upon it. Further that the motor cells are located ventral to the fissure of Rolando. Two photographs illustrate the article.

6. *A Case of Brain Tumor.*—This occurred in a woman seventy-eight years of age. The case of a brain tumor in an old lady of 78, which was unexpected during life, presents nothing of special importance as to diagnosis, owing to deficient clinical history in this respect. A careful autopsy was made and the brain thoroughly examined. Two photographs accompany the article.

7. *Acute Paresis with Report of a Case; the Clinical History and Pathological Findings.*—A number of atypical conditions included under general paresis differing in symptomatology, as well as in the pathological changes. Only the cases which present the following features should be classed as acute paresis: (1) There should not be any prodromal period when the symptoms were of subacute or chronic type; (2) when death occurs in acute delirious excitement, the pathologist has to determine if there is a definite organic lesion sufficient to account for death; (3) when the pathological findings reveal a subacute or chronic process in the central nervous system, acute paresis is excluded. The case of a man is reported, whose disease ran its course in a few months. The family history was negative. No severe illness. Contracted lues several years ago. He first lost interest in his work, became nervous, worried, had digestive derangements. Before admission presented symptoms indicative of mental deterioration. Physical signs on admission practically negative, except marked speech defect. Memory very poor and unable to give any intelligent account of himself. Had hallucinations of hearing of a persecutory content. Gradually become more excited and noisy at times, his conversation disconnected and incoherent, no well marked grandiose ideas. About four months after admission had a series of convulsions. Had been extremely restless before, requiring restraint. After seizures the mental weakness progressed rapidly, and finally died in a little over four months after admission, only a few days after the convulsions. The authors' résumé of the case is as follows: "It is probable that cases of acute paresis are of greater rarity than has commonly been supposed. In order to form an accurate judgment as to whether a given case may be grouped under the *forme foudroyante,* it is not only essential that the subacute or chronic initial phase be excluded by the history of the case, but the acuteness or chronicity of the pathological process in the central nervous system must be carefully considered. The pathological findings reveal nothing that is essentially characteristic of the disease. We have noted in particular a nerve-cell alteration, which is in no sense pathognomonic. There is a general and not localized disappearance of fibers from all cortical areas. The neuroglia shows an increase of the cellular elements, particularly of the larger size spider cells, with but little, if any, increase of the fibers. The blood vessels, particularly the larger arteries of the cortex, are well filled with blood; in some cases this overfilling extends to the smallest vessels. Many round nuclei are found in the perivascular spaces. In most of the cortical areas, numbers of plasma cells are present. We have failed to

find them in the tissue surrounding the vessels. The character of the changes in the various organs, as well as in the central nervous system, suggests a general intoxication. The vascular changes in the cortex are not sufficient to account for the degeneration of the nerve elements." This paper is illustrated by two plates showing the condition of the various nerve cells.

8. *On the Motor Cortex.*—This paper will not bear abstracting, as it is largely a detail of study and investigation of the motor cortex. It at first gives a history of the development of cerebral localization. The substance of the paper is best given in the author's own résumé: "The motor cortex occupies the middle region of the hemispheres, intermediate between the general and special sensory areas on the one side, and the specific association or psychic center on the other. This zone is the earliest to functionate, and the central sulcus forms to give increased room for its developing elements. It has been defined by the brilliant experimental work begun by Hitzig and Ferrier, by the clinical and pathological findings of Broca, Hughlings Jackson and a legion of subsequent observers, by the intricate myelogenetic method of Flechsig, and by the histological studies of Betz, Hammarberg and Cajal. Beginning with the observation of Hitzig that the motor area embraced nearly a half of the brain surface, its confines have gradually become narrowed. It has long been assumed roughly to include both central convolutions and the paracentral. Beevor and Horsley cast a suspicion upon the motor function of the postcentral gyrus. Flechsig discovered embryologic differences which he believed justified him in considering the postcentral the seat of general incoming sensory impulses, and the adjoining precentral the seat of outgoing motor impulses. Finally, Cajal described a specific fiber distribution in the precentral convolution which, he believes, serves to differentiate it as the motor type of cortex. That a motor type of cortex exists is abundantly proven. It is characterized by its unusual width dependent upon the marked development of the medium-sized pyramidal cell layer containing the specific plexus of Cajal, by the absence of a clearly defined granular zone, and by the presence of giant cells in the sixth layer with thicker and denser radial bundles and a richer development of the overlying tangential fibers, which are of maximum density in those portions of the convolution which contain the greatest number of giant cells, both being more conspicuous in the fissure in the lower half of the Rolandic zone, and on the summit of the convolution in the upper part of the motor region. Passing beyond the limits of the motor area, superiorly, inferiorly, anteriorly or posteriorly, one observes a gradual change in the cortical type, the third layer becoming narrower, the fifth wider, and the specific elements of the sixth disappearing. This change is typically illustrated in a cross section through anterior and posterior central convolutions. The paracentral presents both types of cortex, the transition taking place below the extremity of the fissure of Rolando, although no surface-marking determines the boundary."

9. *A Case of Metastatic Adrenal Tumors in the Left Mid-frontal and Ascending Frontal Convolutions.*—A man of forty-eight had a tumor removed, involving the left kidney, which on examination proved to be a sarcoma of adrenal origin. He improved rapidly after the operation and was about to leave the hospital, when he had several severe epileptiform seizures, and in a few days another series of similar convulsions, which were immediately followed by weakened attention. Slight symptoms of paresis soon appeared on the right side. He soon displayed some hesitancy in speaking and often used the wrong word. His mental processes gradually became impaired in progressive manner, and the functions of the right extremities also became more impaired before death; he became helpless and his mental functions extremely dull, filthy in his habits and unable to appreciate his surroundings or condition. Was finally unable to swallow

fluids readily, could not express himself intelligently, manifesting an almost complete suspension of the mental functions. Finally he died in a semicomatose state with slight elevation of temperature, accelerated pulse and respiration. The autopsy revealed a tumor of 2.5 cm. in its greatest diameter in the left temporal region. Its exact location was found to be in the posterior inferior part of the swollen midfrontal lobe, just anterior to the precentral fissure and 4.5 cm. above the beginning of the fissure of Sylvius. A second smaller tumor was found in the ascending frontal lobe, between the precentral fissure and the fissure of Rolando, measuring 8 mm. in diameter. Two similar nodules were found in the left lung, being composed of large cells imbedded in the meshes of a rather delicate connective tissue stroma, i. e., like that of carcinoma. The cells of large size and of epitheleoid character and protoplasm of delicate reticulated appearance. Two plates show the appearance of the superior surface of the brain and a vertical section through the site of the tumors.

McCorn.

LE NEVRAXE

(Vol. 4, 1902, No. 2.)

6. Case of Lesion of Cauda Equina. Contribution to Study of Centers of Micturition, Defecation, Erection and Ejaculation (concluded). A. Van Gehuchten.
7. Experimental Study on the Innervation of the Larynx of the Rabbit. F. de Beule.
8. Gemmules in the Nerve Cells. S. Soukhanoff.

6. *Cauda Equina Centers.*—Van Gehuchten completes his study begun in the last number of this journal. He presents a very full analysis of the work done in the centers of micturition, defecation, ejaculation, etc., and gives in great detail his results in a patient with a severe transverse lesion of the cauda. The paper is extensive, and his conclusions can be here given in fragments only. He believes with Müller that the primary centers of micturition, defecation, erection, and in part also of ejaculation are largely localized in the sympathetic ganglion of the hypogastric plexus. To these centers, however, should be superimposed those located in the conus. These, in their turn, are influenced by the superior centers of the cerebral cortex.

The sympathetic centers can functionate in a manner completely independent of the cerebrospinal centers. This probably takes place, for instance, in infants in the first months of life. Then the bladder and rectum empty themselves more or less regularly automatically at more or less regular intervals, and erection may take place. This also takes place in adults in lesions of the conus or of the inferior roots of the conus.

The medullary centers, however, exercise an influence over the sympathetic centers. Thus, in infancy, cold applied to the feet may induce a reflex micturition and similar skin reflexes in adults may stimulate vesical activity. The cortical influences are of the voluntary order and are acquired largely by the educative processes. In cord lesions their cutting off temporarily disarranges the bladder, rectal and other functions, but they may recuperate and come back to their primary functional activity.

7. *Innervation of the Muscles of the Larynx.*—F. de Beule gives a lengthy historical and experimental study on this subject, treating the subject under three main heads: (a) The distribution of the laryngeal nerves; (b) the part played respectively by the pneumogastric and the spinal accessory in the muscle innervation, and the character of their fibers; (c) the determination of the medullary center of the laryngeal nerves. So far as the muscular distribution of the laryngeal nerves is concerned de Beule favors Linget's views, holding that (1) Exner's views of a double nerve supply and from the nerves of both sides is not true; (2) Longet's view